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NASA Procedural Requirements

COMPLIANCE IS MANDATORY**NPR 8705.6**Effective Date: October 04,
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Subject: Safety and Mission Assurance Audits, Reviews, and Assessments

Responsible Office: Office of Safety and Mission Assurance[| TOC](#) | [Preface](#) | [Chapter1](#) | [Chapter2](#) | [Chapter3](#) | [Chapter4](#) | [AppendixA](#) | [AppendixB](#) | [ALL](#) |

Chapter 3. Programmatic Audit and Review (PA&R)

3.1 Objective

3.1.1 The objectives of the PA&R process are to provide independent compliance verification of the program/project BRS and to assess the health of the program/project SMA assurance activities.

3.1.2 The PA&R process may be Headquarters-led or Center-led. While Headquarters-led PA&R activities are conducted by the OSMA Review and Assessment Division for the Chief Safety and Mission Assurance Officer, Center-led programmatic audits and reviews are undertaken on behalf of the Center Director and are conducted by the Center SMA Director and SMA staff incorporating the elements described in paragraph 3.1.5 herein.

3.1.3 The PA&R process is designed to be applied during any phase or before/between any major decision points of a program/project life cycle. Emphasis typically evolves from concentration on flow-down and capability verification early in a program/project to rigorous compliance verification in later life cycle phases. As no two programs/projects are identical, the PA&R process adapts to the unique complexity of each individual program/project. The process is designed to take full advantage of information gained in earlier phases, as well as other internal and external audits, reviews, and assessments.

3.1.4 The PA&R process is designed to provide actionable inputs to the Chief Safety and Mission Assurance Officer via reports and/or corrective action plans prepared at completion of each of the intermediate process steps defined in paragraph 3.1.5. These represent individual SMA decision points where major requirements compliance issues and associated risks are considered by the Chief Safety and Mission Assurance Officer, in concert with the Chief Engineer and program management, relative to the continuation of the program/project.

3.1.5 PA&R process activities are defined by the following eight major elements:

- a. Make decision to conduct program audit/review/assessment - Select program/project based on established selection criteria or by request or by direction.
- b. Conduct program discovery - Identify and document program-specific SMA roles, responsibilities, and relationships. This is accomplished through a program-unique mission assurance process map and matrix developed and maintained by the program/project with appropriate support and guidance of the Headquarters and/or Center SMA organization. Program/project management and the responsible Center SMA organization use these products to actively manage the SMA function and to develop and support required inputs to the SMARR.
- c. Understand baseline requirements - Understand and document the applicable programmatic BRS and associated OQE as jointly established with the independent Technical Authority and the program/project. For existing programs, conduct a requirements gap analysis between the existing set of program requirements and the governing set of Agency SMA process and technical requirements.
- d. Verify requirements flow-down - Verify flow-down of Agency-level requirements to the program/project. Verify that requirements flow from the program/project to prime and subtier contractors.
- e. Verify process capability - Verify that SMA process capabilities (e.g., funding, personnel training, certifications, experience, skill mix) are sufficient to support the program/project.
- f. Verify compliance - Perform ongoing surveillance and conduct onsite in-process audits and reviews including

preaudit planning, audit guide development, and postaudit report production.

g. Provide feedback -Provide feedback on audit/review results and findings to OSMA divisions, the cognizant Center SMA organization, program management, and Office of the Chief Engineer to provide lessons learned and to support program/project continuation decisions.

h. Support operational readiness decision - Identify and define any program/project requirement noncompliance risks in support of the SMARR.

3.2 Programmatic Audit and Review Roles and Responsibilities

3.2.1 The Agency Associate Administrator shall:

3.2.1.1 Ensure that Centers implement the applicable programmatic BRS (Requirement).

3.2.1.2 Ensure that Centers support the PA&R processes described in this document (Requirement).

3.2.2 Associate Administrators for Mission Directorates shall:

3.2.2.1 Ensure that programs/projects under the Mission Directorate implement the applicable programmatic BRS (Requirement).

3.2.2.2 Ensure that programs/projects under the Mission Directorate are prepared to support the PA&R process described in this document (Requirement).

3.2.3 The Chief Safety and Mission Assurance Officer shall:

3.2.3.1 Identify programs/projects requiring a Headquarters-led PA&R. The determination will be based on general criteria including such factors as size, complexity, visibility, cost, risk, and human rating (Requirement).

3.2.3.2 Assist in defining the applicable programmatic BRS and associated OQE (Requirement).

3.2.3.3 Implement and execute the Headquarters-led PA&R process for selected programs/projects in concert with the appropriate Center SMA organization(s) to provide assurance that the program/project has complied with the applicable programmatic BRS (Requirement).

3.2.3.4 For multi-Center programs/projects, identify the lead SMA organization for coordination of Headquarters-led PA&R process activities and implementation of Center-led PA&R process activities (Requirement)

3.2.3.5 Employ Center-based SMA independent assessment groups as a resource to conduct Headquarters-led programmatic audits, reviews, and assessments in accordance with the PA&R process defined herein (Requirement).

3.2.3.6 Coordinate the direct supply chain audits/reviews conducted by the Agency Supplier Assurance Contract in support of the PA&R process (Requirement).

3.2.3.7 Provide appropriate Mission Directorates, Program/Project Managers, and other independent assessment organizations with current PA&R implementation plans and schedules (Requirement).

3.2.3.8 Provide an auditor selection and screening process to ensure that potential audit/review team members have the requisite program/project, subject matter, and auditor experience and competency to participate in PA&R onsite audits and reviews (Requirement).

3.2.3.9 Establish a PA&R records management system compliant with NPD 1440.6, NASA Records Management (Requirement).

3.2.4 The NASA Chief Engineer shall:

3.2.4.1 Ensure that program Chief Engineers support the OSMA in defining and documenting the applicable programmatic BRS and associated OQE (Requirement).

3.2.5 Center Directors shall:

3.2.5.1 Provide the necessary Center support to the PA&R process (Requirement).

3.2.5.2 Identify and provide Center subject matter experts to the OSMA, as requested, to support Headquarters-led PA&R process activities (Requirement).

3.2.5.3 Establish and support Center-led PA&R process activities by providing the logistic and resource support required for successful planning and execution of the PA&R process at the Center (Requirement).

3.2.5.4 In concert with the Center SMA Director, Program/Project Manager, and Program/Project SMA Manager, provide a Closed-loop Corrective Action Plan to the OSMA for resolution of Headquarters-led PA&R findings within 60 calendar days of the completion of the audit/review (Requirement).

3.2.5.5 Present periodic status of all PA&R process corrective actions to the Chief Safety and Mission Assurance Officer or designee every 60 calendar days thereafter until all findings have been closed (Requirement).

3.2.6 Center SMA Directors shall:

3.2.6.1 Support and participate in Headquarters-led PA&R process activities (Requirement).

3.2.6.1.1 Incorporate Headquarters-led PA&R process activities into Center SMA plans (Requirement).

3.2.6.1.2 Provide to the PA&R Audit/Review Lead all necessary review materials to facilitate the planning and execution of the Headquarters-led audit/review (Requirement).

3.2.6.1.3 Submit a copy of the most recent applicable Center-led PA&R report(s) to the OSMA sufficiently in advance of Headquarters-led PA&R process activities to facilitate review, planning, and execution of such activities (Requirement).

3.2.6.1.4 In concert with the Center Director, Program/Project Manager, and Program/Project SMA Manager, prepare and present a Closed-loop Corrective Action Plan to the Chief Safety and Mission Assurance Officer or designee for resolution of Headquarters-led PA&R findings within 60 calendar days of the completion of the audit/review (Requirement).

3.2.6.1.5 In concert with the Center Director, present periodic status of Headquarters-led PA&R corrective actions to the Chief Safety and Mission Assurance Officer or designee every 60 calendar days thereafter until the findings are closed (Requirement).

3.2.6.2 Implement a Center-led PA&R process, consistent with the elements outlined in paragraph 3.1.5, by planning and executing Center-managed and/or Center-located activities to provide: 1) requirements flow-down verification; 2) assessment of program/project SMA process capability; 3) independent verification of in-process work discipline and compliance with requirements based on OQE; and 4) communication of attendant SMA residual risk to the program/project and to OSMA (Requirement).

3.2.6.2.1 Incorporate Center-led PA&R process activities into Center SMA plans (Requirement).

3.2.6.2.2 Support the Center-led PA&R process with the appropriate logistic and resource support required for successful execution of required audits/reviews (Requirement).

3.2.6.2.3 Provide to the PA&R Audit/Review Lead all necessary review materials to facilitate the planning and execution of the Center-led audit/review (Requirement).

3.2.6.2.4 In concert with the Program/Project Manager and Program/Project SMA Manager, prepare and present a Closed-loop Corrective Action Plan to the Center Director for resolution of Center-led PA&R findings within 60 calendar days of the audit/review (Requirement).

3.2.6.2.5 Present periodic status of Center-led PA&R corrective actions to the Center Director and provide periodic status to the Chief Safety and Mission Assurance Officer or designee (Requirement).

3.2.6.3 Coordinate with program/project management and Center procurement to ensure that contracts provide for adequate contractor support of Headquarters-led and Center-led PA&R process activities.

3.2.7 Program/Project Managers shall:

3.2.7.1 Incorporate PA&R process activities into program/project plans, including a program/project-unique mission assurance process map and matrix developed and maintained by the program/project with appropriate support and guidance of the Headquarters and/or Center SMA organization (Requirement). Program/project management and responsible Center SMA organization use these products to actively manage the SMA function and to develop and support required inputs to the SMARR.

3.2.7.2 Support the PA&R process (either Headquarters-led or Center-led) by providing logistic and resource support required for successful execution of and response to PA&R process activities (Requirement).

3.2.7.3 Coordinate with Center SMA and Center procurement to ensure that contracts provide for adequate contractor support of Headquarters-led and Center-led PA&R activities.

3.2.7.4 Provide the PA&R Audit/Review Lead with the applicable programmatic BRS and OQE to facilitate PA&R process activities (Requirement).

3.2.7.5 Provide authorization for the program/project contractors to support PA&R process activities (Requirement).

3.2.7.6 In concert with the Center Director, Center SMA Director, and Program/Project SMA Manager, provide a Corrective Action Plan to the OSMA for resolution of Headquarters-led PA&R findings within 60 calendar days of the audit/review (Requirement).

3.2.7.7 In concert with the Program/Project SMA Manager, provide a Corrective Action Plan to the Center Director for resolution of Center-led PA&R findings (Requirement).

3.2.8 SMA Managers Reporting (matrixed or direct) to the Program/Project Manager shall:

3.2.8.1 Support the program/project manager in the development and maintenance of the program Assurance Process Map and Matrix (Requirement).

3.2.8.2 Develop and maintain a program-specific Mission Assurance Portfolio which contains the OQE necessary to support the PA&R audits, reviews, and assessments (Requirement).

3.2.8.3 Identify to the PA&R Audit/Review Lead (either Headquarters-led or Center-led) other audits, reviews, or assessments that may have previously verified compliance with the applicable programmatic BRS (Requirement).

3.2.9 Other Independent Assessment organizations shall:

3.2.9.1 Communicate and coordinate their program or project audit/review plans, schedules, and findings with OSMA Review and Assessment Division to minimize duplication and overlap among the various independent assessment activities (Requirement).

Note: This includes, but is not limited to, the Office of Program Analysis and Evaluation, Independent Verification and Validation (IV&V) Facility, and NASA Engineering and Safety Center (NESC).

3.2.10 Headquarters-led or Center-led PA&R Audit/Review Lead shall:

3.2.10.1 Develop and execute the PA&R audit/review plan (Requirement).

3.2.10.2 For each PA&R audit/review, coordinate with the specific Program/Project Manager by supplying notification of the general scope of the audit/review and the expected start and finish dates (Requirement).

3.2.10.3 Recruit appropriate subject matter experts to be audit/review team members (Requirement).

3.2.10.4 Ensure audit/review team members are independent of the program/project being audited (Requirement).

3.2.10.5 Ensure that all team members are qualified to conduct programmatic audits, reviews, and assessments; i.e., have the requisite program/project, subject matter, and auditor experience and competency (Requirement).

3.2.10.6 Develop a program/project-specific audit/review guide to support the onsite audit/review (Requirement).

3.2.10.7 Conduct the onsite audit/review and ensure that records of all audit/review activities are maintained; specifically, ensure that each auditor collects/documents evidence that the program/project meets the applicable programmatic BRS relevant to the audit/review objectives (Requirement). Acceptable OQE includes the following:

- a. List of personnel interviewed.
- b. Organization/functions/facilities visited/assessed.
- c. Documentation requested and reviewed.
- d. Findings: specifically noncompliances and observations.

3.2.10.8 Provide findings in a formal report to the participating Mission Directorate, Center Director, SMA Director, Program Manager, and Program Risk Management Officer for disposition of findings (Requirement).

Note: Information derived from PA&R activities often contains lessons learned and best practices. Headquarters- or Center-led PA&R Audit/Review Lead may share this information via appropriate Web-based resources; e.g., LLIS, PBMA-KMS.

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